Amendments to the Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ and/or in [[double brackets]] if the deletion would be difficult to see.

LISTING OF CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Currently amended) A system, comprising:

a dual-coil half bridge converter adapted to be coupled to a single or multiple coil actuator of an intake or exhaust valve of a cylinder in an internal combustion engine, the actuator being energized to control actuation of the intake or exhaust valve between an open position and a closed position, the converter having a first capacitor and a second capacitor and a voltage source, with at least one end of each of the first and second capacitors coupled to a

common reference, the converter actuated via switches to individually energize coils in said dual coil actuator, wherein at least one end of said actuator is coupled to said common reference, and wherein said dual-coil half bridge converter maintains a charge balance on said first and second capacitors, **wherein said converter is adapted to be coupled to a plurality of engine cylinder valves and the charge balance is maintained by disabling at least some of the plurality of cylinders in natural charge sharing pairs**.

10. (Cancelled)

11. (Cancelled)

12. (Currently amended) The system of claim [[11]]**9** wherein said dual coil half bridge converter maintains a charge balance on said first and second capacitor even when at least one cylinder of the engine is deactivated while at least one other cylinder carries out combustion.

13. (Original) The system of claim 9 wherein said capacitors form a dual voltage source.

14. (Previously presented) The system of claim 9 wherein said dual coil half bridge converter is adapted to be coupled to at least two dual coil actuators of two cylinder valves, wherein the converter is configured to balance voltage of said first and second capacitor.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Previously presented) A system comprising:

a power supply with a positive and negative terminal;

a first coil coupled to a cylinder valve actuator of an engine, said first coil having a first end and a second end;

a first switch coupled between a first end of said first coil and said positive terminal of said power supply;

a first capacitor coupled between said positive terminal of said power supply and said second end of said first coil;

a first diode coupled between said first end of said first coil and said negative terminal;

a second coil, said second coil having a first end and a second end, said first end of said second coil coupled to said second end of said first coil;

a second capacitor coupled between said first end of said second coil and said negative terminal;

a second switch coupled between said second end of said second coil and said negative terminal;

a second diode coupled between said second end of said second coil and said positive terminal

a third coil; and

a fourth coil, wherein said system is configured to balance voltage across said first, second, third, and fourth coils.

21. (Original) The system of claim 20 where said negative terminal of said power supply is coupled to a ground.

22. (Original) The system of claim 20 where said switches control actuation of at least one cylinder valve of an internal combustion engine.

23. (Original) The system of claim 20 wherein said second coil is coupled to said cylinder valve actuator.

24. (Previously presented) The system of claim 20 wherein said second coil is coupled to another cylinder valve actuator of said engine.

25. (Cancelled)

26. (Original) The system of claim 20 where said second end of said first coil is coupled to ground.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32 (Cancelled)